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EXAMINER
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SCHEIBEL, ROBERT C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 08/06/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/702,736

Applicant(s)

PARK ET AL.

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9.11.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see page 2, filed 5/19/2004, with respect to the objection to the specification have been fully considered and are persuasive. The objection to the specification has been withdrawn.
2. Applicant's arguments filed 5/19/2004 have been fully considered but they are not persuasive.

Applicant has amended claims 1, 8, 11, and 16 in response to the first office action. Starting on page 9, applicant has argued the rejections of the first office action. In the first paragraph of page 9, applicant describes the amendments to the claims. The next two paragraphs summarize the specification and the addition of a new layer called the "bit stream reconfiguration layer". The fourth paragraph summarizes the rejection and focuses on the rejection of steps (d) and (e) of the claims. Examiner generally agrees with the above characterizations. In the next paragraph, the applicant argues that the rejection is improper because the examiner is silent with respect to the layer from which the identification information and the channel characteristics are obtained. Applicant also disagrees with the rejection of the limitation of claim 13 of the link layer deciding on a quality of service.

In view of the broad claim language, the examiner maintains the previous rejection (modified as necessitated by amendment of the claims). Regarding the applicant's assertion that the previous rejection is silent with respect to from which layer

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the identification information is determined, it is clear in the specification that step 601 is performed by identifying the flow label initially inserted in the mobile terminal (see lines 52-55 of column 10 which describe step 601). The flow ID is inserted by the application software which is well known to be the user layer as specified earlier in the same paragraph (lines 44-48). Step 601 therefore anticipates this step as stated in the previous office action. Regarding the applicant's assertion that the previous rejection does not explicitly indicate that the channel characteristics are determined from the physical layer, examiner has interpreted the claims broadly. As written, the claims only require that the decoding state be obtained from the physical layer ("obtaining information on at least one of channel characteristics and a decoding state from a physical layer" – the information is one of either "channel characteristics" or "a decoding state from a physical layer"). Further, although not required by the current broad wording, it is well known to those of ordinary skill in the art that the channel characteristics of the reference (the availability of sufficient resources on the radio channel) would at some level need to be obtained from a physical layer as the resources are physical resources. Regarding the applicant's assertion that the previous rejection doesn't adequately address the use of the link layer in making the quality of service decision, the examiner maintains the position that Mikkonen discloses deciding on the quality of service based on the channel characteristics. Further, as indicated in the previous office action, the applicant's admitted prior art states that the link layer performs link and media access control which clearly would include the quality of service decision described in Mikkonen; Mikkonen was relied upon for teaching the

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limitation that the quality of service decision is based upon channel characteristics as this decision is clearly a link and media access control function and thus part of the link layer. Finally, regarding applicant's assertion that the identifier field is inserted by a bit stream reconfiguration layer, the teaching of Mikkonen anticipates this limitation based on the broad claim language. First, the amended claims include the limitation "from a bit stream identification layer" (see claims 1, 8, and 11). This layer is not supported in the specification and thus constitutes new matter (see the rejection below). However, the examiner will interpret this limitation as reading "from a bit stream reconfiguration layer" for the purposes of the art rejections below. As stated in the previous office action, Mikkonen discloses the limitation of inserting an identifier field in the bit stream. Although there is no language disclosing this insertion being done in a "bit stream reconfiguration layer", the action of inserting the flow identifier is a means of reconfiguring the bit stream and thus anticipates the insertion being performed at a "bit stream reconfiguration layer" according to the broad claim language.

### ***Information Disclosure Statement***

3. The document "Japanese Office Action dated May 25, 2004" on the information disclosure statement filed 7/15/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. A copy of the specified document was not provided with the information disclosure statement and that document has therefore not been considered.

***Claim Objections***

4. Claims **5-6** are objected to because of the following informalities: claim 5 depends on claim 4 which has been cancelled; it should now likely depend on claim 3. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims **1, 3, 5-12** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The limitation "from a bit stream identification layer" of claims 1, 8, and 11 is not described in the specification.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1, 3, 5, 7-8, 10-11, 15 and 16** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,501,741 to Mikkonen et al.

Regarding claims **1, 3, 5, 8, and 11**, the step (a) of obtaining identification information (claims 1, 8, and 11) is disclosed by Mikkonen in the QOS flow detection block 601 of figure 6. It is clear that the application using such a flow can be a video application as indicated in Mikkonen in column 7, lines 17-22 and from line 63 of column 12 to line 4 of column 13. The step (b) of obtaining information on channel characteristics and the decoding state (claims 1, 8, and 11) is disclosed in determining whether there are sufficient resources available on the radio channel described from column 11, line 65 through column 12, line 5. This same paragraph (starting at column 11, line 65) discloses part step (c) of deciding on a quality of service based on the channel characteristics and the decoding state (claims 1, 8, and 11). This paragraph explains that a poorer quality of service can still be used to support the flow. Thus the decision on the quality of service level is based partly on the channel characteristics and decoding state. The other part of this step (c) (deciding on a quality of service based on the identification information) is disclosed in block 601 of figure 6 as described in lines 52-55 of column 10. The step (d) of inserting an identifier field (claims 1, 8, and 11) is disclosed in the flow identifier transmitted in message 603 of figure 6 and described from line 60 of column 10 through line 5 of column 11. The insertion of this identifier constitutes reconfiguring the bit stream and thus is inherently performed in a "bit stream

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reconfiguration layer". The step (e) of inserting a quality of service field (claims 3, 8, and 11) is disclosed in the QoS\_FLOW\_ACTIVATE message 603 of figure 6. The step (f) of outputting the bit stream (claims 5, 8, and 11) is disclosed in figure 6. The identifier and QOS portions of the bit stream are output in message 604 of figure 6, and the payload portions of the bit stream are output in the Active QOS flow 611 of figure 6.

Regarding claims **15 and 16**, the step of receiving a bit stream including an identifier, QOS, and payload data is disclosed in the reception of message 604 and flow 611 by MT 1. The step of performing a call setup negotiation is the process of setting up the QOS flow shown in figure 6 and described from line 28 of column 10 through line 49 of column 11.

Regarding claims **7 and 10**, figure 6 clearly shows the limitation that step (a) of obtaining identification information and step (b) of deciding on a QOS level are part of a call setup process. Figure 6 shows the steps Mikkonen uses in setting up the QOS flow 611.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of



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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of U.S. Patent 6,501,741 to Mikkonen et al.

Applicant's admitted prior art discloses the user layer in lines 12-16 of page 1. Applicant's admitted prior art also discloses the limitation of a link layer performing link and media access control in lines 16-17 of page 1; it is evident that the payload would need to be inserted into the bit stream at the link layer. Applicant's admitted prior art further discloses the limitation of a physical layer for performing bit streaming from line 17 of page 1 to line 2 of page 2.

Applicant's admitted prior art does not disclose expressly the limitation of the link layer deciding on a quality of service, the bit stream reconfiguration layer, or the limitation of the bit stream transmitted by the physical layer containing the identifier and QOS fields.

Mikkonen discloses the limitation of the link layer deciding on a quality of service based on the channel characteristics and the decoding state in determining whether there are sufficient resources available on the radio channel described from column 11, line 65 through column 12, line 5. This paragraph explains that a poorer quality of

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service can still be used to support the flow. Thus the decision on the quality of service level is based partly on the channel characteristics and decoding state. The other part of this limitation (deciding on a quality of service based on the identification information) is disclosed in block 601 of figure 6 as described in lines 52-55 of column 10. Mikkonen discloses the limitation of a bit stream reconfiguration layer inserting an identifier field in the flow identifier transmitted in message 603 of figure 6 and described from line 60 of column 10 through line 5 of column 11. The limitation of a bit stream reconfiguration layer inserting a quality of service field (claims 3-4, 8, and 11) is disclosed in the QoS\_FLOW\_ACTIVATE message 603 of figure 6. Once these fields have been inserted in the bit stream as indicated above, the physical layer will obviously include these fields as part of the stream it transmits.

Applicant's admitted prior art and Mikkonen are analogous art because they are from the same field of endeavor of establishing a flow with a certain quality of service in a radio communication system. At the time of the invention it would have been obvious to a person of ordinary skill in the art to determine a quality of service and insert the quality of service field and an identifier field as part of the communication method described in applicant's admitted prior art. The motivation for doing so would have been to increase the effective capacity of the radio channel by eliminating unnecessary retransmissions for real-time applications (such as video). This is suggested by Mikkonen in lines 4-38 of column 13.

Therefore, it would have been obvious to combine Mikkonen with Applicant's admitted prior art for the benefit of improving the effective capacity of the wireless channel to obtain the invention as specified in claim 13.

6. Claims **6-7, 9, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,501,741 to Mikkonen et al in view of U.S. Patent 6,529,633 to Easwar et al.

Mikkonen discloses all the limitations of the parent claims 1, 5, 8, and 11 as specified in the rejection under 35 U.S.C. 102(e) above.

Mikkonen does not disclose expressly the limitation of checking whether the stream is byte-aligned, preparing stuffing bits when the stream is not byte-aligned, and outputting the stuffing bits at the end of the stream.

Easwar discloses "bit stuffing with 0's to the nearest byte boundary before transmitting" in the paragraph starting with line 6 of column 13. This discloses the limitations of determining if the stream is byte aligned (to find the nearest byte boundary), preparing stuffing bits (bit stuffing with 0's), and outputting the stuffing bits (performing the stuffing prior to transmitting). Mikkonen and Easwar are analogous art because they are from phrase same field of endeavor of transmitting compressed video. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Mikkonen to bit stuff the stream to ensure it is aligned. The motivation for doing so would have been to improve decoding speed by the receiver as indicated in line 6 of column 13 of Easwar.

Therefore, it would have been obvious to combine Easwar with Mikkonen for the benefit of improving decoding speed to obtain the invention as specified in claims 6-7, 9, and 12.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of U.S. Patent 6,501,741 to Mikkonen et al as applied to claim 13 above, and further in view of U.S. Patent 6,529,633 to Easwar et al.

Applicant's prior art as modified by Mikkonen above, discloses all the limitations of the parent claim 13 as specified in the rejection under 35 U.S.C. 102(e) above.

Applicant's prior art as modified by Mikkonen above does not disclose expressly the limitation of checking whether the stream is byte-aligned, preparing stuffing bits when the stream is not byte-aligned, and outputting the stuffing bits at the end of the stream.

Easwar discloses "bit stuffing with 0's to the nearest byte boundary before transmitting" in the paragraph starting with line 6 of column 13. This discloses the limitations of determining if the stream is byte aligned (to find the nearest byte boundary), preparing stuffing bits (bit stuffing with 0's), and outputting the stuffing bits (performing the stuffing prior to transmitting). Applicant's prior art as modified by Mikkonen above and Easwar are analogous art because they are from phrase same field of endeavor of transmitting compressed video. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Mikkonen to bit stuff the stream to ensure it is aligned. The motivation for doing so would have been to improve decoding speed by the receiver as indicated in line 6 of column 13 of Easwar.

Therefore, it would have been obvious to combine Easwar with Mikkonen for the benefit of improving decoding speed to obtain the invention as specified in claims 14.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 6,477,670, 6,600,732, 6,683,866, 6,661,780, 6,728,365, 6,728,208, 5,440,551, and U.S. Patent Application Publication 2003/0174731 all disclose methods of improving quality of service which may read on any amended claims in responses to this office action.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**FRANK DUONG**  
**PRIMARY EXAMINER**

*RCS 8-4-04*  
Robert C. Scheibel  
Examiner  
Art Unit 2666